

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for input ideographic characters
5 comprising the steps of:

(a) entering an input sequence into a user input device;

wherein said user input device comprises:

10 a plurality of input means, each of said input means being associated with at least one ~~any~~ of a plurality of strokes and a plurality of phonetic characters, and an input sequence being generated each time when an input means is selected by a user into said user input device, wherein said user selection of said input means is alternatively associated with at least one ~~any~~ of said plurality of strokes and said plurality of phonetic characters;

15 wherein one of said input sequence is associated with a special wildcard input that is associated with zero or one of any of said strokes and said phonetic characters;

20 data comprising a plurality of input sequences and, associated with each input sequence, an input method specific database containing a plurality of input sequences and, associated with each input sequence, at least one ~~any~~ of a set of phonetic sequences whose spellings correspond to the input sequence and a set of stroke sequences corresponding to the input sequence; and

25 an ideographic database associated with both phonetic input and stroke input, said ideographic database containing a set of ideographic character sequences, wherein each ideographic character contains an ideographic index, a plurality of stroke indices to corresponding stroke sequences and a plurality of phonetic indices to corresponding phonetic sequences;

30 (b) comparing the input sequence with said input method specific database and finding at least one ~~any~~ of:

stroke indices corresponding to matching stroke entries, and

phonetic indices corresponding to matching phonetic entries;

(c) converting at least one any-of:

said matching stroke indices ~~to~~ associated with said matching stroke entries to matching ideographic indices; and

5 said matching phonetic indices associated with said matching ~~or~~ phonetic entries to matching ideographic indices; and

(d) retrieving matching ideographic character sequences from said ideographic database by said matching ideographic indices.

10 2. (Original) The method of Claim 1, wherein said stroke indices are indices of strokes sorted by stroke sequences in a stroke input system.

3. (Original) The method of Claim 2, wherein said stroke input system is a five-stroke or an eight-stroke system.

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4. (Previously Presented) The method of Claim 1, further comprising the step of:

optionally displaying one or more of said matched ideographic character sequences.

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5. (Original) The method of Claim 4, wherein said phonetic input system is a Pinyin system or a Zhuyin system.

6. (Original) The method of Claim 1, wherein said phonetic indices are
25 indices of input means in a phonetic input system.

7. (Original) The method of Claim 1, further comprising the step of:

prioritizing stroke or phonetic sequences that match an input sequence and prioritizing ideographic character sequences that match a stroke or phonetic sequence according to a linguistic model.

- 5 8. (Original) The method of Claim 7, wherein said linguistic model comprises at least one of:

number of total keystrokes in an ideograph;

radical of an ideograph;

radical and number of strokes of a radical;

- 10 alphabetical order;

frequency of occurrence of ideographic character sequences, stroke sequences or phonetic sequences in formal, conversational written, or conversational spoken text;

- 15 frequency of occurrence of ideographic character sequences, stroke sequences or phonetic sequences when following a preceding character or characters;

grammar of the surrounding sentence;

application context of current input sequence entry; and

- 20 recency of use or repeated use of stroke, phonetic or ideographic character sequences by the user or within an application program.

9. (Original) The method of Claim 1, wherein said phonetic sequences comprise single syllables.

- 25 10. (Original) The method of Claim 1, wherein said phonetic sequences comprise single and multiple syllables.

11. (Original) The method of Claim 1, wherein said phonetic sequences comprise user generated sequences.

12. (Original) The method of Claim 11, wherein in absence of matching phonetic sequences in said database, a sequence of matching phonetic sequences is automatically generated based on single and optionally multiple
5 syllable phonetic sequences.

13. (Original) The method of Claim 12, wherein said sequence of matching phonetic sequences is narrowed down through user interaction.

10 14. (Original) The method of Claim 12, wherein a sequence of matching ideographic character sequences is automatically generated based on matching phonetic sequences to ideographic character sequences.

15 15. (Original) The method of Claim 14, wherein a sequence of matching ideographic character sequences is narrowed down through user interaction.

16. (Original) The method of Claim 7, further comprising the step of:
once an ideographic character sequence is selected, changing the associated
priority of said matching phonetic sequence and sequence of ideographic
20 characters.

17. (Original) The method of Claim 1, wherein the user can specify an explicit ideographic character separator.

25 18. (Original) The method of Claim 1, further comprising the step of:
when the user enters a sequence of phonetic characters, returning a
sequence of phonetic sequences of exact matches and predictions that
partially match.

19. (Original) The method of Claim 18, wherein said sequence of phonetic sequences is ordered according to a linguistic model.

20. (Original) The method of Claim 19, wherein said linguistic model
5 comprises at least one of:

alphabetical order;

frequency of occurrence of phonetic sequences or ideographic
character sequences in formal or conversational written text;

frequency of occurrence of phonetic sequences or ideographic when
10 following a preceding character or characters;

grammar of the surrounding sentence;

application context of current character sequence entry; and

recency of use or repeated use of phonetic sequences by the user or
within an application program.

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21. (Original) The method of Claim 1, further comprising the step of:

once the user has selected a sequence of ideographic characters,
presenting the user with a list of sequences of one or more ideographic
characters.

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22. (Original) The method of Claim 21, wherein said list of sequences is
ordered according to a linguistic model.

23. (Original) The method of Claim 22, wherein said linguistic model
25 comprises at least one of:

number of total keystrokes in an ideograph;

radical of an ideograph;

radical and number of strokes of radical;

alphabetical order;

frequency of occurrence of ideographic characters in formal or conversational written text;

frequency of occurrence of ideographic characters when following a preceding character or characters;

grammar of the surrounding sentence;

application context of current character entry; and

recency of use or repeated use of ideographic characters by the user or within an application program.

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24. (Original) The method of Claim 1, wherein the user can enter partial syllables for each of the multiple syllable words.

25. (Previously Presented) The method of Claim 24, wherein the number of keystrokes for each partial syllable is one.

26. (Cancelled)

27. (Original) The method of Claim 1, wherein one of said plurality of inputs is associated with a special wildcard input that is associated with zero or one of said phonetic characters.

28. (Original) The method of Claim 1, wherein said phonetic indices are indices of phonetic characters sorted by actual spelling in a phonetic input system.

29. (Currently Amended) A system for receiving input sequences entered by a user and generating textual output in Chinese language, said system comprising:

a user input device having a plurality of input means, each of said input means being associated with at least one ~~any~~ of a plurality of strokes and a plurality of phonetic characters, an input sequence being generated each time when an input means is selected by said user into said user input device,
 5 wherein said user selection of said input means is alternatively associated with at least one ~~any~~ of said plurality of strokes and said plurality of phonetic characters;

an input method specific database containing a plurality of input sequences and, associated with each input sequence, at least one ~~any~~ of a
 10 set of phonetic sequences whose spellings correspond to the input sequence and a set of stroke sequences corresponding to the input sequence;

an ideographic database associated with both phonetic input and stroke input, said ideographic database containing a set of ideographic character sequences associated with a set of, ~~wherein each ideographic~~
 15 ~~character contains an ideographic~~ indices, index, wherein said set of ideographic indices correspond to both a plurality of stroke indices having to corresponding stroke sequences and a plurality of phonetic indices having to corresponding phonetic sequences;

means for comparing the input sequence with said input method
 20 specific database and finding at least one ~~any~~ of:

stroke indices corresponding to matching stroke entries, and

phonetic indices corresponding to matching phonetic entries;

means for converting at least one ~~any~~ of:

said matching stroke indices ~~to~~ associated with said matching
 25 stroke entries to matching ideographic indices; and

said matching phonetic indices associated with said matching
 phonetic entries to matching ideographic indices;

means for retrieving matching ideographic character sequences from
 said ideographic database by said matching ideographic indices; and

30 an output device for displaying one or more matched stroke or phonetic entries, and matched ideographic characters.

30. (Previously Presented) The system of Claim 29, wherein said stroke indices are indices of strokes sorted by stroke sequences in a stroke input system.

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31. (Original) The system of Claim 29, wherein said stroke input system is 5-stroke or 8-stroke system.

32. (Previously Presented) The system of Claim 29, wherein said
10 phonetic indices are indices of phonetic characters sorted by actual spelling in a phonetic input system.

33. (Previously Presented) The system of Claim 32, wherein said phonetic input system is a Pinyin system or a Zhuyin system.

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34. (Previously Presented) The system of Claim 29, wherein said phonetic indices are indices of input means in a phonetic input system.

35. (Previously Presented) The system of Claim 29, further comprising:
20 means for prioritizing stroke or phonetic sequences that match an input sequence and prioritizing ideographic character sequences that match a matching stroke or phonetic sequence according to a linguistic model.

36. (Previously Presented) The system of Claim 35, wherein said linguistic
25 model comprises at least one of:

number of total keystrokes in an ideograph;

radical of an ideograph;

radical and number of strokes of radical;

alphabetical order;

frequency of occurrence of ideographic character sequences, stroke sequences or phonetic sequences in formal or conversational written text;

5 frequency of occurrence of ideographic character sequences, stroke sequences or phonetic sequences when following a preceding character or characters;

grammar of the surrounding sentence;

application context of current input sequence entry; and

10 recency of use or repeated use of stroke, phonetic or ideographic character sequences by the user or within an application program.

37. (Previously Presented) The system of Claim 29, wherein said phonetic sequences comprise single syllables.

15 38. (Previously Presented) The system of Claim 29, wherein said phonetic sequences comprise both single and multiple syllables.

39. (Previously Presented) The system of Claim 29, wherein said phonetic sequences comprise user generated sequences.

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40. (Previously Presented) The system of Claim 39, wherein in absence of matching phonetic sequences in said database, a sequence of matching phonetic sequences is automatically generated based on single and optionally multiple syllable phonetic sequences.

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41. (Previously Presented) The system of Claim 40, wherein said sequence of matching phonetic sequences is narrowed down through user interaction.

42. (Previously Presented) The system of Claim 40, wherein a sequence of matching ideographic character sequences is automatically generated based on matching phonetic sequences to ideographic character sequences.

5 43. (Previously Presented) The system of Claim 42, wherein a sequence of matching ideographic character sequences is narrowed down through user interaction.

44. (Previously Presented) The system of Claim 35, further comprising:
10 means for changing the associated priority of the matching phonetic sequence and the sequence of ideographic characters once an ideographic character sequence is selected.

45. (Previously Presented) The system of Claim 29, wherein the user can
15 specify a particular tone for the phonetic syllable.

46. (Previously Presented) The system of Claim 29, wherein one of said plurality of inputs is associated with a special wildcard input that is associated with any or all tones.

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47. (Previously Presented) The system of Claim 29, wherein the user can specify an explicit ideographic character separator.

48. (Previously Presented) The system of Claim 29, wherein once the user
25 enters a sequence of phonetic characters, the user is returned a sequence of phonetic sequences of exact matches and predictions that partially match.

49. (Previously Presented) The system of Claim 48, wherein said sequence is ordered according to the frequency of use based on a linguistic model.

5 50. (Previously Presented) The system of Claim 49, wherein said linguistic model comprises at least one of:

number of total keystrokes in an ideograph;

radical of an ideograph;

radical and number of strokes of radical;

10 alphabetical order;

frequency of occurrence of phonetic sequences or ideographic character sequences in formal or conversational written text;

frequency of occurrence of phonetic sequences or ideographic when following a preceding character or characters;

15 grammar of the surrounding sentence;

application context of current character sequence entry; and

recency of use or repeated use of phonetic sequences by the user or within an application program.

20 51. (Previously Presented) The system of Claim 29, wherein once the user has selected a sequence of ideographic characters, the user is presented with a list of sequences of one or more ideographic characters.

25 52. (Previously Presented) The system of Claim 51, wherein said list of sequences is ordered according to the frequency of use based on a linguistic model.

53. (Previously Presented) The system of Claim 52, where said linguistic model comprises at least one of:

- number of total keystrokes in an ideograph;
- radical of ideograph;
- radical and number of strokes of radical;
- alphabetical order;
- 5 frequency of occurrence of ideographic characters in formal or conversational written text;
- frequency of occurrence of ideographic characters when following a preceding character or characters;
- grammar of the surrounding sentence;
- 10 application context of current character entry; and
- recency of use or repeated use of ideographic characters by the user or within an application program.

54. (Previously Presented) The system of Claim 29, wherein one of said
15 plurality of inputs is associated with a special wildcard input that is associated with zero or one of any of said strokes and said phonetic characters.

55. (Previously Presented) The system of Claim 29, wherein one of said
20 plurality of inputs is associated with a special wildcard input that is associated with zero or one of said phonetic characters.

56. (Currently Amended) A computer usable medium containing
instructions in computer readable form for carrying out a process for Chinese
text entry, said process comprising the steps of:

25 (a) entering an input sequence into a user input device;

wherein said user input device comprises:

a plurality of input means, each of said input means being associated with at least one any-of a plurality of strokes and a plurality of phonetic characters, and an input sequence being generated each

time when an input means is selected by a user into said user input device, wherein said user selection of said input means is alternatively associated with at least one any of said plurality of strokes and said plurality of phonetic characters;

5 wherein one of said input sequence is associated with a special wildcard input that is associated with zero or one of any of said strokes and said phonetic characters;

10 data comprising a plurality of input sequences and, associated with each input sequence, an input method specific database containing a plurality of input sequences and, associated with each input sequence, at least one any of a set of phonetic sequences whose spellings correspond to the input sequence ~~or~~ and a set of stroke sequences corresponding to the input sequence; and

15 an ideographic database associated with both phonetic input and stroke input, said ideographic database containing a set of ideographic character sequences, wherein each ideographic character contains an ideographic index, a plurality of stroke indices to corresponding stroke sequences and a plurality of phonetic indices to corresponding phonetic sequences;

20 (b) comparing the input sequence with said input method specific database and finding at least one any of:

stroke indices corresponding to matching stroke entries, and

phonetic indices corresponding to matching phonetic entries;

(c) converting at least one any of:

25 said matching stroke indices associated with said matching stroke entries to matching ideographic indices; and

said matching phonetic indices associated with said matching phonetic entries to matching ideographic indices;

30 (d) retrieving matching ideographic character sequences from said ideographic database by said matching ideographic indices; and

(e) optionally displaying one or more of said matched ideographic character sequences.

57. (Previously Presented) The medium of Claim 56, wherein said stroke indices are indices of strokes sorted by stroke sequences in a stroke input system.

58. (Previously Presented) The medium of Claim 57, wherein said stroke input system is a five-stroke or an eight-stroke system.

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59. (Previously Presented) The medium of Claim 56, wherein said phonetic indices are indices of phonetic characters sorted by actual spelling in a phonetic input system.

15 60. (Previously Presented) The medium of Claim 59, wherein said phonetic input system is a Pinyin system or a Zhuyin system.

61. (Previously Presented) The medium of Claim 56, wherein said phonetic indices are indices of input means in a phonetic input system.

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62. (Previously Presented) The medium of Claim 56, wherein the process further comprises the step of:

prioritizing stroke or phonetic sequences that match an input sequence and prioritizing ideographic character sequences that match a stroke or phonetic sequence according to a linguistic model.

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63. (Previously Presented) The medium of Claim 62, wherein said linguistic model comprises at least one of:

number of total keystrokes in an ideograph;

radical of an ideograph;

radical and number of strokes of a radical;

alphabetical order;

5 frequency of occurrence of ideographic character sequences, stroke sequences or phonetic sequences in formal, conversational written, or conversational spoken text;

frequency of occurrence of ideographic character sequences, stroke sequences or phonetic sequences when following a preceding character or characters;

10 grammar of the surrounding sentence;

application context of current input sequence entry; and

recency of use or repeated use of stroke, phonetic or ideographic character sequences by the user or within an application program.

15 64. (Previously Presented) The medium of Claim 56, wherein said phonetic sequences comprise single syllables.

65. (Previously Presented) The medium of Claim 56, wherein said phonetic sequences comprise single and multiple syllables.

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66. (Previously Presented) The medium of Claim 56, wherein said phonetic sequences comprise user generated sequences.

25 67. (Previously Presented) The medium of Claim 66, wherein in absence of matching phonetic sequences in said database, a sequence of matching phonetic sequences is automatically generated based on single and optionally multiple syllable phonetic sequences.

68. (Previously Presented) The medium of Claim 67, wherein said sequence of matching phonetic sequences is narrowed down through user interaction.

5 69. (Previously Presented) The medium of Claim 67, wherein a sequence of matching ideographic character sequences is automatically generated based on matching phonetic sequences to ideographic character sequences.

70. (Previously Presented) The medium of Claim 69, wherein a sequence
10 of matching ideographic character sequences is narrowed down through user interaction.

71. (Previously Presented) The medium of Claim 62, wherein the process further comprises the step of:

15 once an ideographic character sequence is selected, changing the associated priority of said matching phonetic sequence and sequence of ideographic characters.

72. (Previously Presented) The medium of Claim 56, wherein the user can
20 specify an explicit ideographic character separator.

73. (Previously Presented) The medium of Claim 56, wherein the process further comprises the step of:

25 when the user enters a sequence of phonetic characters, returning a sequence of phonetic sequences of exact matches and predictions that partially match.

74. (Previously Presented) The medium of Claim 73, wherein said sequence of phonetic sequences is ordered according to a linguistic model.

75. (Previously Presented) The medium of Claim 74, wherein said linguistic model comprises at least one of:

- number of total keystrokes in an ideograph;
- 5 radical of an ideograph;
- radical and number of strokes of radical;
- alphabetical order;
- frequency of occurrence of phonetic sequences or ideographic character sequences in formal or conversational written text;
- 10 frequency of occurrence of phonetic sequences or ideographic when following a preceding character or characters;
- grammar of the surrounding sentence;
- application context of current character sequence entry; and
- recency of use or repeated use of phonetic sequences by the user or
- 15 within an application program.

76. (Previously Presented) The medium of Claim 56, wherein the process further comprises the step of:

- once the user has selected a sequence of ideographic characters,
- 20 presenting the user with a list of sequences of one or more ideographic characters.

77. (Previously Presented) The medium of Claim 76, wherein said list of sequences is ordered according to a linguistic model.

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78. (Previously Presented) The medium of Claim 77, wherein said linguistic model comprises at least one of:

- number of total keystrokes in an ideograph;

- radical of an ideograph;
- radical and number of strokes of radical;
- alphabetical order;
- frequency of occurrence of ideographic characters in formal or
- 5 conversational written text;
- frequency of occurrence of ideographic characters when following a
- preceding character or characters;
- grammar of the surrounding sentence;
- application context of current character entry; and
- 10 recency of use or repeated use of ideographic characters by the user
- or within an application program.

79. (Previously Presented) The medium of Claim 56, wherein the user
can enter partial syllables for each of the multiple syllable words.

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80. (Previously Presented) The medium of Claim 79, wherein the number
of keystrokes for each partial syllable is one.

81. (Previously Presented) The medium of Claim 56, wherein one of said
20 plurality of inputs is associated with a special wildcard input that is associated
with zero or one of any of said strokes and said phonetic characters.

82. (Cancelled)